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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,906	10/20/2004	Motohide Murayama	260429US3PCT	4215
22850 7590 03/22/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER RODRIGUEZ, WILLIAM H	
			ART UNIT 3746	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/22/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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ED

Office Action Summary

Application No.

10/511,906

Applicant(s)

MURAYAMA ET AL.

Examiner

William H. Rodriguez

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-17 and 22-25 is/are rejected.
- 7) ☒ Claim(s) 4-9 and 18-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/20/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

This is the first office action in response to the above identified patent application filed on 10/20/2004.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 11-17 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson (US 6,167,693).

Anderson (particularly Figures 5, 14, 16) teaches a pulse detonation engine comprising: a gas supply section (compressed air from compressor 32), a fuel supply section 38, a detonation generator 47 section including a detonation tube, an igniter 50 for igniting the mixture of gas and fuel in the detonation tube, a turbine (58, 60) driven by impact energies of detonations, the detonation generator section including a shock alleviating section (56, cl. 10 ll. 47-cl. 11 ll. 19) for converting the impact energies of the detonations into compression energies of the gas, the turbine being cooled with steam generated by a waste heat recovery boiler (Figures 14, 16, and cl. 22 ll. 28-48), an electric generator (cl. 26 ll. 2), and a shaft connected to the turbine.

With regards to the method claims, since Anderson has the same structure as claimed, it is inherent that Anderson's device would be able to perform the recited method steps.

Art Unit: 3746

3. Claims 1, 2, 11-17 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 1,048,448.

GB'448 teaches a pulse detonation engine comprising: a gas supply section (compressed air from compressor 2), a fuel supply section (fuel delivered into pulse combustor), a detonation generator 3 section including a detonation tube, an igniter (inherent) for igniting the mixture of gas and fuel in the detonation tube, a turbine (1) driven by impact energies of detonations, the turbine being cooled with steam generated by a waste heat recovery boiler 4, an electric generator (not shown but inherent and a shaft connected to the turbine).

With regards to the method claims, since GB'448 has the same structure as claimed, it is inherent that GB'448's device would be able to perform the recited method steps.

4. Claims 1, 10, 12-14, 22, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Bussing (US 5,513,489).

Bussing (particularly Figures 3, 11, 25) teaches a pulse detonation engine comprising: a gas supply section (compressed air), a fuel supply section, a detonation generator section including a detonation tube, an igniter (inherent) for igniting the mixture of gas and fuel in the detonation tube, a turbine driven by impact energies of detonations, injection of purge gas into the detonation chamber, an electric generator (cl. 26 ll. 2), and a shaft connected to the turbine. See particularly cl. 4 ll. 37-cl. 5 ll. 23; cl. 6 ll. 7-12; cl. 9 ll. 3-14; cl. 15 ll. 3-cl. 16 ll. 2.

With regards to the method claims, since Bussing has the same structure as claimed, it is inherent that Bussing's device would be able to perform the recited method steps.

Art Unit: 3746

Allowable Subject Matter

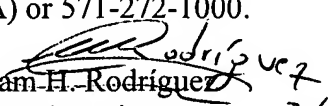
5. Claims 4-9, 18-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodríguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William H. Rodríguez
Primary Examiner
Art Unit 3746

3/13/07